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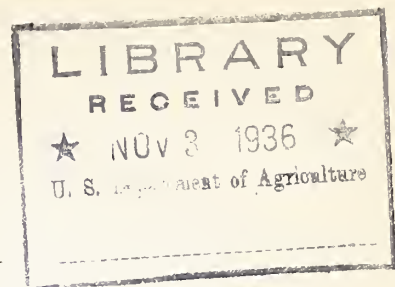


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APPALACHIAN FOREST EXPERIMENT STATION



Technical Note No. 22  
Management - Southern Pines

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RECENT SITE INDEX CURVES FOR SECOND-GROWTH LOBLOLLY PINE

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The height attained by the average dominant and codominant tree at a designated reference age has been generally accepted by foresters as a quantitative measure of site quality.

Figure 1 presents recently compiled site index curves for second-growth loblolly pine growing in even-aged, fully stocked <sup>1/</sup> stands in Virginia, North Carolina, and South Carolina. These curves show site indices based on the height that average dominant and codominant trees have attained or will attain at a reference age of 50 years in fully stocked stands. They were constructed from data collected on 149 mechanically selected plots covering the entire range of loblolly pine in the three states.

In applying these curves for determining site index of areas supporting even-aged, fully stocked stands, the following procedure should be used.

1. Determine the total age and height of 10 randomly selected dominant and codominant loblolly pine trees in the particular stand.
2. Compute the average age and height of these trees.
3. Refer these values to Figure 1 and determine the site index from the family of curves there presented.

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<sup>1/</sup>  
For definition of full stocking, see Technical Note No. 15 of the Appalachian Forest Experiment Station.



When site index values are desired for areas supporting understocked or overstocked stands, the average measured heights of the dominant and codominant trees must first be corrected because trees growing in such stands are not as tall as they would have been had the stands been 100 percent stocked. Figure 2 gives corrections in feet which must be added to the average measured heights of trees growing in stands of various ages and densities to obtain values which can be referenced to Figure 1 for determination of site index.

The following example illustrates the procedure:

Given:

Stand Description

Average Age	20 years
Average Height (D&C)	44 feet
Density of Stocking	30 percent

Height Correction for	
Density of Stocking (from Fig.2)	+6 feet
Corrected Height	50 feet
Site Index (from Fig. 1)	90



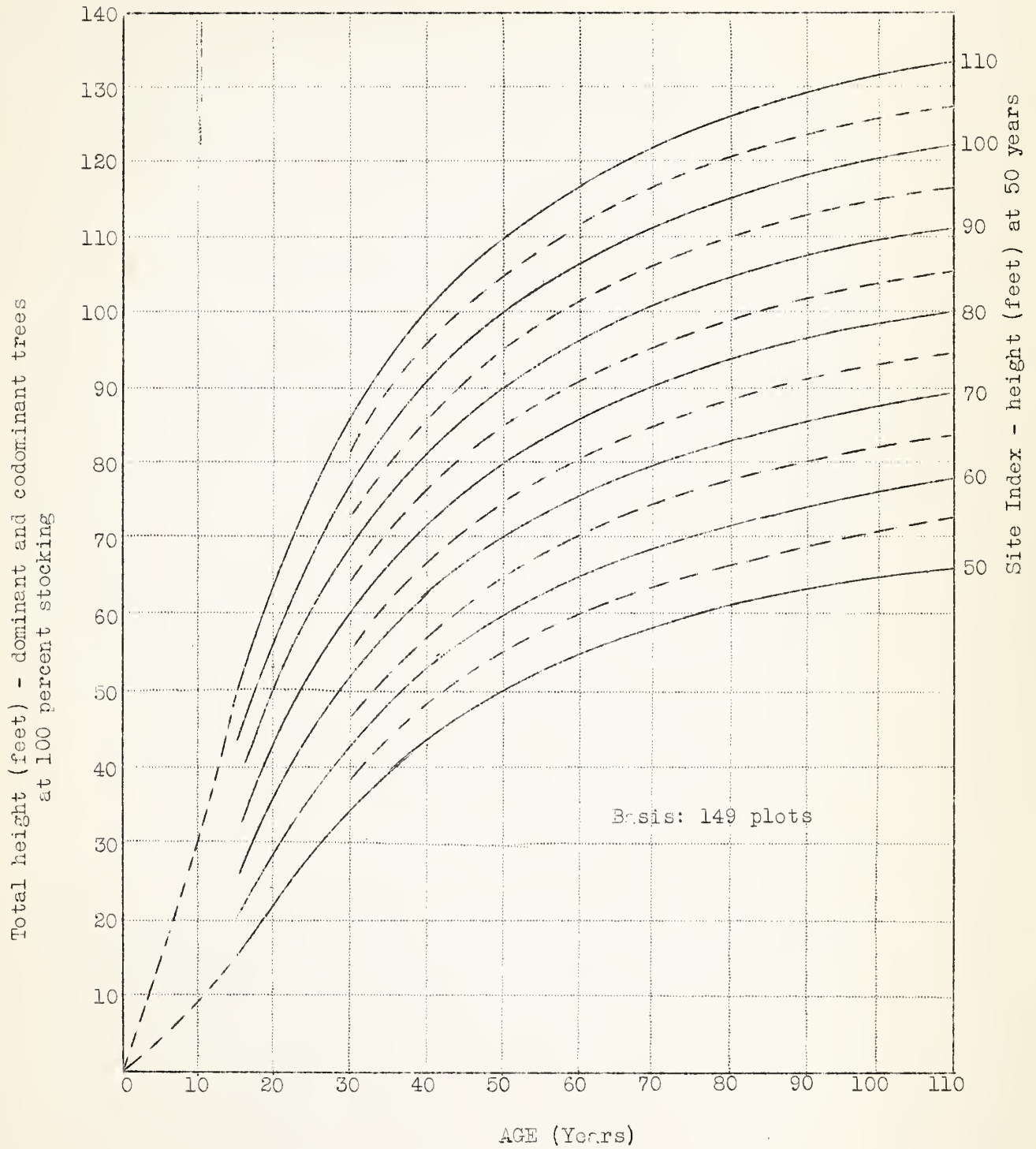


Figure 1. Site index curves for loblolly pine growing in fully-stocked stands.





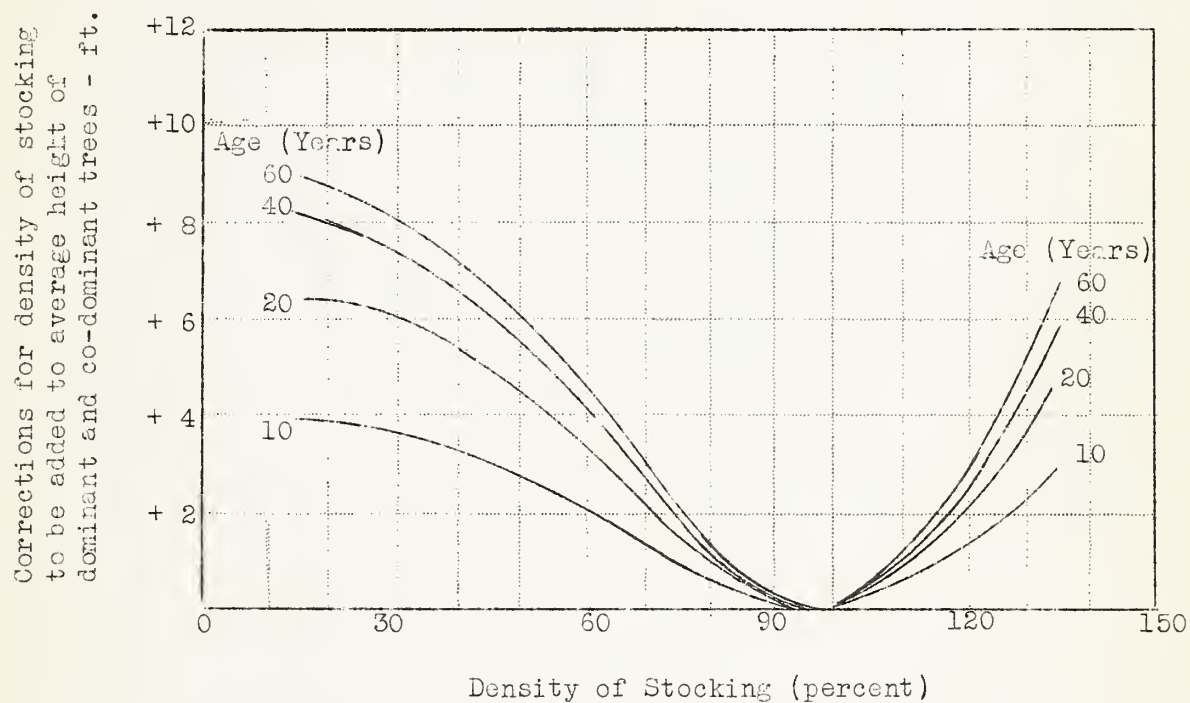


Figure 2. Corrections to be added to average measured heights of loblolly pine trees growing in stands of various ages and densities to obtain values which can be referenced to site index curves.

